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(54) Title: MICROSTRUCTURES AND METHODS OF FABRICATION THEREOF

(57) Abstract: Fuel cells, fuel cell membranes, micro-fuel cells, and methods of fabricating each, are disclosed. One exemplary fuel cell, among others, includes a membrane including a material such as organic conducting materials and inorganic conducting materials, and combinations thereof. The membrane has a thickness of about 0.01 to 10  $\mu\text{m}$ , and has an area resistivity of about 0.1 to 1000 ohms  $\text{cm}^2$ .

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